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# MAJOR COMMERCIAL FISHERIES

## WITH DATA ON

# RESEARCH EXPENDITURES

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## A SERIES OF STATISTICAL TABLES

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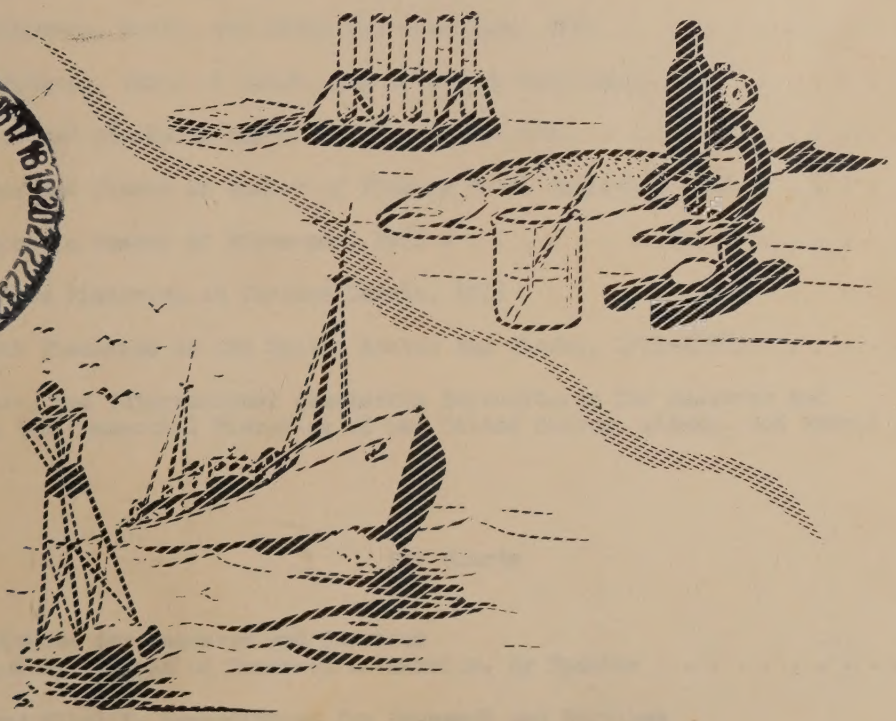

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UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Fishery Leaflet 435 May 1956

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RELATIVE VOLUME AND VALUE OF CATCH OF CERTAIN SPECIES, 1953

| Volume | | Species | Value | |
|---|---|---|---|---|
| Rank | Million Pounds | | Rank | Million Dollars |
| 1 | 1,696.1 | Menhaden | 5 | 18.6 |
| 2 | 312.9 | Salmon | 3 | 37.8 |
| 3 | 306.1 | Tuna and tunalike fishes: | 2 | 47.0 |
| | 2.2 | Atlantic | | .2 |
| | 303.9 | Pacific | | 47.2 |
| 4 | 260.4 | Shrimp: | 1 | 76.6 |
| | 257.6 | Atlantic | | 76.3 |
| | 2.8 | Pacific | | .3 |
| 5 | 154.4 | Herring, sea: | 19 | 2.5 |
| | 111.2 | Atlantic | | 1.8 |
| | 43.2 | Pacific | | .7 |
| 6 | 153.9 | Ocean perch, Atlantic 1/ | 12 | 6.0 |
| 7 | 144.1 | Crabs: | 11 | 10.2 |
| | 112.8 | Atlantic | | 5.9 |
| | 31.3 | Pacific | | 4.3 |
| 8 | 139.6 | Haddock 1/ | 9 | 10.5 |
| 9 | 100.0 | Flounders: | 10 | 10.3 |
| | 63.5 | Atlantic | | 8.1 |
| | 36.5 | Pacific | | 2.2 |
| 10 | 89.6 | Whiting | 23 | 1.8 |
| 11 | 86.0 | Anchovies | 24 | 1.7 |
| 12 | 79.7 | Oysters: | 4 | 29.1 |
| | 69.3 | Atlantic | | 27.3 |
| | 10.4 | Pacific | | 1.8 |
| 13 | 55.8 | Jack mackerel | 21 | 2.0 |
| 14 | 51.2 | Alewives | 40 | 1.0 |
| 15 | 47.1 | Halibut: | 13 | 5.6 |
| | .3 | Atlantic | | .1 |
| | 46.8 | Pacific | | 5.7 |
| 16 | 43.9 | Scup or porgy | 17 | 2.6 |
| 17 | 41.3 | Cod: 1/ | 18 | 2.6 |
| | 32.7 | Atlantic | | 2.2 |
| | 8.6 | Pacific | | .4 |
| 18 | 37.6 | Clams: | 6 | 11.5 |
| | 35.3 | Atlantic | | 11.0 |
| | 2.3 | Pacific | | .5 |
| 19 | 34.5 | Mullet | 16 | 3.0 |
| 20 | 34.3 | Carp | 22 | 1.9 |
| 21 | 28.4 | Catfish and bullheads | 14 | 5.7 |
| 22 | 28.1 | Lobsters, northern | 7 | 10.9 |
| 23 | 25.6 | Buffalofish | 15 | 3.5 |
| 24 | 25.6 | Rockfishes (Incl., Pacific ocean perch) | 37 | 1.1 |
| 25 | 23.9 | Pollock 1/ | 43 | .7 |
| 26 | 23.6 | Scallops, sea | 8 | 10.5 |
| 27 | 23.1 | Mussel shells | 59 | .4 |
| 28 | 18.6 | Herring, lake | 36 | .9 |
| 29 | 14.5 | Sea bass, black, Atlantic | 26 | 1.5 |
| 30 | 14.5 | Squid | 54 | .5 |
| 31 | 11.3 | Chub | 25 | 1.7 |
| 32 | 10.8 | Spot | 49 | .6 |
| 33 | 10.3 | Hake, white 1/ | 55 | .5 |
| 34 | 9.5 | Sardines, Pacific | 51 | .5 |
| 35 | 9.2 | Shad | 27 | 1.5 |
| | | Mackerel: | | |
| 38 | 8.5 | Atlantic | 35 | 1.0 |
| 43 | 7.5 | Pacific | 62 | .3 |
| 52 | 5.1 | Striped bass | 33 | 1.1 |

1/ If the catch of groundfish, considered in this tabulation to consist of cod, cusk, haddock, white hake, pollock, and Atlantic ocean perch were listed as a single item, the volume of the catch (372.1 million pounds) would rank second, while the value (20.4 million dollars) would rank fifth.

CATCH OF CERTAIN IMPORTANT SPECIES, 1953

| Rank | Species | Catch | Percentage of Total | Record Catch | Record Catch through 1953 |
|---|---|---|---|---|---|
| | | Thousand Pounds | Percent | Year | Thousand Pounds |
| 1 | Menhaden | 1,696,076 | 38.0 | 1953 | 1,696,076 |
| 2 | Salmon | 312,934 | 7.0 | 1936 | 790,924 |
| 3 | Tuna and tunalike fishes | 306,092 | 6.9 | 1950 | 392,273 |
| 4 | Shrimp | 260,357 | 5.8 | 1953 | 260,357 |
| 5 | Fresh-water fish 1/ | 180,624 | 4.0 | (2) | (2) |
| 6 | Herring, sea | 154,432 | 3.5 | 1950 | 363,765 |
| 7 | Ocean perch, Atlantic | 153,898 | 3.4 | 1951 | 258,320 |
| 8 | Crabs | 144,147 | 3.2 | 1950 | 159,278 |
| 9 | Haddock | 139,603 | 3.1 | 1930 | 267,123 |
| 10 | Flounders | 99,952 | 2.2 | 1948 | 138,924 |
| 11 | Whiting | 89,625 | 2.0 | 1951 | 120,076 |
| 12 | Oysters | 79,719 | 1.8 | 1908 3/ | 152,046 |
| 13 | Jack mackerel | 55,751 | 1.2 | 1952 | 146,522 |
| 14 | Halibut | 45,730 | 1.0 | 1915 | 66,696 |
| 15 | Scup or porgy | 43,945 | 1.0 | 1953 | 43,945 |
| 16 | Clams | 37,581 | .8 | 1951 | 43,385 |
| 17 | Mullet | 34,473 | .8 | 1902 | 43,137 |
| 18 | Other | 633,021 | 14.3 | - | - |
| | Total | 4,467,960 | 100.0 | - | - |

1/ Data on the catch of fresh-water fish in the Mississippi River and its tributaries are for 1950.
2/ Data not available.
3/ First year in which an oyster survey was made in all regions.

CATCH OF FINFISH BY ATLANTIC COAST OTTER TRAWLERS, 1953

| Species | Thousand pounds |
|---|---|
| *Groundfish | 340,738 |
| Whiting | 86,093 |
| Flounders | 61,216 |
| Unclassified: | |
| For food | 91,264 |
| Other than for food | 88,760 |
| Total | 668,071 |

*Includes Atlantic cod, cusk, haddock, white hake, pollock, and ocean perch.

VALUE OF THE CATCH OF CERTAIN IMPORTANT SPECIES, 1953

| Rank | Species | Value | Percentage of Total | Record Value | Record Value through 1953 |
|---|---|---|---|---|---|
| | | Thousand Dollars | Percent | Year | Thousand Dollars |
| 1 | Shrimp | 76,641 | 21.8 | 1953 | 76,641 |
| 2 | Tuna and tunalike fishes | 47,173 | 13.4 | 1950 | 61,419 |
| 3 | Salmon | 37,806 | 10.7 | 1951 | 52,509 |
| 4 | Oysters | 29,054 | 8.2 | 1952 | 32,339 |
| 5 | Fresh-water fish 1/ | 19,708 | 5.6 | (2) | (2) |
| 6 | Menhaden | 18,578 | 5.3 | 1953 | 18,578 |
| 7 | Clams | 11,467 | 3.3 | 1952 | 11,700 |
| 8 | Lobsters, northern | 10,870 | 3.1 | 1953 | 10,870 |
| 9 | Haddock | 10,528 | 3.0 | 1946 | 13,043 |
| 10 | Scallops, sea | 10,476 | 3.0 | 1952 | 10,832 |
| 11 | Flounders | 10,291 | 2.9 | 1951 | 13,253 |
| 12 | Crabs | 10,200 | 2.9 | 1946 | 12,678 |
| 13 | Ocean perch | 6,213 | 1.8 | 1951 | 12,597 |
| 14 | Halibut | 5,733 | 1.6 | 1950 | 8,457 |
| 15 | Herring | 3,422 | 1.0 | 1948 | 5,832 |
| 16 | Mullet | 2,982 | .8 | 1945 | 4,647 |
| 17 | Scup or porgy | 2,614 | .7 | 1951 | 2,994 |
| 18 | Cod | 2,577 | .7 | 1948 | 5,075 |
| 19 | Other | 35,942 | 10.2 | - | - |
| | Total | 352,275 | 100.0 | - | - |

1/ Data on the catch of fresh-water fish in the Mississippi River and its tributaries are for 1950.
2/ Data not available.

VALUE OF THE CATCH OF FINFISH BY ATLANTIC COAST OTTER TRAWLERS, 1953

| Species | Thousand dollars |
|---|---|
| *Groundfish | 18,813 |
| Flounders | 7,708 |
| Whiting | 1,723 |
| Unclassified: | |
| For food | 5,885 |
| Other than for food | 815 |
| Total | 34,944 |

*Includes Atlantic cod, cusk, haddock, white hake, pollock, and ocean perch.

## RANK OF STATES AND ALASKA IN VOLUME OF CATCH, 1953

| Rank | State | Million Pounds | Percent of Total |
|---|---|---|---|
| 1 | California | 544 | 12.2 |
| 2 | Massachusetts | 510 | 11.4 |
| 3 | New Jersey | 459 | 10.3 |
| 4 | Louisiana | 434 | 9.7 |
| 5 | Delaware | 367 | 8.2 |
| 6 | Alaska | 297 | 6.6 |
| 7 | Virginia | 278 | 6.2 |
| 8 | Maine | 244 | 5.5 |
| 9 | Florida | 210 | 4.7 |
| 10 | North Carolina | 193 | 4.3 |
| 11 | Washington | 149 | 3.3 |
| 12 | Texas | 142 | 3.2 |
| 13 | New York | 138 | 3.1 |
| 14 | Rhode Island | 92 | 2.1 |
| 15 | Mississippi | 85 | 1.9 |
| 16 | Maryland | 65 | 1.5 |
| 17 | Oregon | 40 | .9 |
| 18 | Wisconsin | 30 | .7 |
| 19 | Michigan | 25 | .6 |
| 20 | Ohio | 23 | .5 |
| 21 | Tennessee | 20 | .4 |
| 22 | Alabama | 20 | .4 |
| 23 | Georgia | 18 | .4 |
| 24 | Minnesota | 18 | .4 |
| 25 | Connecticut | 17 | .4 |
| 26 | South Carolina | 14 | .3 |
| 27 | Arkansas | 13 | .3 |
| 28 | Illinois | 10 | .2 |
| 29 | South Dakota | 3 | .1 |
| 30 | Kentucky | 2 | .04 |
| 31 | Iowa | 2 | .04 |
| 32 | Pennsylvania | 2 | .04 |
| 33 | Oklahoma | 2 | .04 |
| 34 | New Hampshire | 1 | .02 |
| 35 | Missouri | 1 | .02 |
| 36 | Indiana | (1) | - |
| | Total | 4,468 | 100.0 |

1/ Less than 500,000 pounds.

RANK OF STATES AND ALASKA IN VALUE OF CATCH, 1953

| Rank | State | Million Dollars | Percent of Total |
|---|---|---|---|
| 1 | California | 59.4 | 16.9 |
| 2 | Massachusetts | 37.8 | 10.7 |
| 3 | Florida | 31.8 | 9.0 |
| 4 | Louisiana | 28.2 | 8.0 |
| 5 | Texas | 27.2 | 7.7 |
| 6 | Alaska | 26.5 | 7.5 |
| 7 | Washington | 19.9 | 5.6 |
| 8 | Maine | 16.8 | 4.8 |
| 9 | Virginia | 16.0 | 4.5 |
| 10 | New Jersey | 14.5 | 4.1 |
| 11 | Maryland | 10.4 | 3.0 |
| 12 | New York | 9.7 | 2.8 |
| 13 | North Carolina | 8.3 | 2.4 |
| 14 | Delaware | 6.2 | 1.8 |
| 15 | Oregon | 4.8 | 1.4 |
| 16 | Mississippi | 4.4 | 1.2 |
| 17 | Rhode Island | 4.0 | 1.1 |
| 18 | Alabama | 3.5 | 1.0 |
| 19 | Michigan | 3.3 | .9 |
| 20 | Georgia | 3.2 | .9 |
| 21 | Ohio | 3.0 | .9 |
| 22 | Wisconsin | 2.6 | .7 |
| 23 | South Carolina | 2.3 | .7 |
| 24 | Minnesota | 1.8 | .5 |
| 25 | Arkansas | 1.6 | .5 |
| 26 | Tennessee | 1.4 | .4 |
| 27 | Connecticut | 1.3 | .4 |
| 28 | Illinois | 1.0 | .3 |
| 29 | Pennsylvania | .4 | .1 |
| 30 | Kentucky | .3 | .1 |
| 31 | New Hampshire | .2 | .05 |
| 32 | Oklahoma | .2 | .05 |
| 33 | Iowa | .1 | - |
| 34 | South Dakota | .1 | - |
| 35 | Missouri | .1 | - |
| 36 | Indiana | (1) | - |
| | Total | 352.3 | 100.0 |

1/ Less than $50,000.

VOLUME OF THE UNITED STATES AND ALASKA CATCH, BY GEAR, 1953

| Rank | Gear | Catch | | Principal Species |
|---|---|---|---|---|
| | | Million Pounds | Percent of Total | |
| 1 | Purse seines. . . . . | 2,041 | 45.7 | Menhaden, salmon, tuna, mackerel, herring |
| 2 | Otter trawls. . . . . | 1,016 | 22.7 | Groundfish, shrimp, flounders, whiting |
| 3 | Lines . . . . . | 443 | 10.0 | Tuna, crabs, salmon |
| 4 | Gill nets . . . . . | 201 | 4.5 | Salmon, mullet, fresh-water fish |
| 5 | Pound nets. . . . . | 184 | 4.1 | Salmon, menhaden, alewives |
| 6 | Traps and pots. . . . | 118 | 2.6 | Crabs, lobsters |
| 7 | Dredges . . . . . | 108 | 2.4 | Oysters, crabs, scallops |
| 8 | Other . . . . . | 357 | 8.0 | - |
| | Total. . . . . | 4,468 | 100.0 | |

VALUE OF THE UNITED STATES AND ALASKA CATCH, BY GEAR, 1953

| Rank | Gear | Catch | | Principal Species |
|---|---|---|---|---|
| | | Million Dollars | Percent of Total | |
| 1 | Otter trawls. . . . . | 116 | 33.0 | Shrimp, groundfish, flounders, whiting |
| 2 | Lines . . . . . | 63 | 17.9 | Tuna, salmon, crabs |
| 3 | Purse seines. . . . . | 46 | 13.0 | Menhaden, salmon, tuna |
| 4 | Dredges . . . . . | 36 | 10.2 | Oysters, scallops, crabs |
| 5 | Gill nets . . . . . | 23 | 6.5 | Salmon, fresh-water fish, mullet |
| 6 | Traps and pots. . . . | 19 | 5.4 | Lobsters, crabs |
| 7 | Tongs . . . . . | 11 | 3.1 | Oysters |
| 8 | Pound nets. . . . . | 9 | 2.6 | Salmon, menhaden, alewives |
| 9 | Haul seines . . . . . | 8 | 2.3 | Salmon, mullet, spot |
| 10 | Other . . . . . | 21 | 6.0 | - |
| | Total. . . . . | 352 | 100.0 | |

NUMBER OF FISHERMEN, CATCH, AND CATCH PER FISHERMAN FOR THE MAJOR FISHERIES, 1953

| Fishery | Fishermen | | Catch | | Fishery | Catch per Fisherman | |
|---|---|---|---|---|---|---|---|
| | Rank | Number | Rank | Thousand Pounds | | Rank | Thousand Pounds |
| Fresh-water 1/. . . . | 1 | 24,000 | 7 | 180,624 | Menhaden. . . . . | 1 | 403.8 |
| Salmon. . . . . | 2 | 21,000 | 5 | 312,934 | Sardine, Pacific 2/ . | 2 | 183.2 |
| Clam. . . . . | 3 | 16,957 | 12 | 37,581 | North Atlantic trawl. | 3 | 133.6 |
| Shrimp. . . . . | 4 | 15,000 | 6 | 260,357 | Herring, Maine. . . . | 4 | 95.8 |
| Oyster. . . . . | 5 | 13,941 | 10 | 79,719 | Tuna. . . . . | 5 | 39.5 |
| Crab. . . . . | 6 | 7,873 | 8 | 144,147 | Halibut . . . . . | 6 | 21.3 |
| Tuna. . . . . | 7 | 7,750 | 4 | 306,092 | Crab. . . . . | 7 | 18.3 |
| Lobster, northern . . | 8 | 7,400 | 14 | 28,115 | Shrimp. . . . . | 8 | 17.4 |
| Scallop . . . . . | 9 | 6,000 | 15 | 26,471 | Salmon. . . . . | 9 | 14.9 |
| North Atlantic trawl. | 10 | 5,000 | 3 | 668,071 | Fresh-water 1/. . . . | 10 | 7.5 |
| Mullet. . . . . | 11 | 4,631 | 13 | 34,473 | Mullet. . . . . | 11 | 7.4 |
| Menhaden. . . . . | 12 | 4,200 | 1 | 1,696,076 | Oyster. . . . . | 12 | 5.7 |
| Sardine, Pacific 2/ . | 13 | 3,900 | 2 | 714,522 | Scallop . . . . . | 13 | 4.4 |
| Halibut . . . . . | 14 | 2,200 | 11 | 46,765 | Lobster, northern . . | 14 | 3.8 |
| Herring, Maine. . . . | 15 | 1,050 | 9 | 100,587 | Clam. . . . . | 15 | 2.2 |

1/ Data are for 1950.
2/ The 1950 catch of Pacific sardines has been used in this table because the take during that year is more representative of an average year than the 1953 production.

NUMBER OF FISHERMEN, VALUE OF CATCH, AND VALUE OF CATCH PER FISHERMAN FOR THE MAJOR FISHERIES, 1953

| Fishery | Fishermen | | Value of Catch | | Fishery | Value of Catch per Fisherman | |
|---|---|---|---|---|---|---|---|
| | Rank | Number | Rank | Thousand Dollars | | Rank | Thousand Dollars |
| Fresh-water 1/. . . . | 1 | 24,000 | 6 | 19,708 | North Atlantic trawl. | 1 | 7.0 |
| Salmon. . . . . | 2 | 21,000 | 3 | 37,806 | Tuna. . . . . | 2 | 6.1 |
| Clam. . . . . | 3 | 16,957 | 10 | 11,467 | Shrimp. . . . . | 3 | 5.1 |
| Shrimp. . . . . | 4 | 15,000 | 1 | 76,641 | Menhaden. . . . . | 4 | 4.4 |
| Oyster. . . . . | 5 | 13,941 | 5 | 29,054 | Sardine, Pacific 2/ . | 5 | 3.1 |
| Crab. . . . . | 6 | 7,873 | 12 | 10,200 | Halibut . . . . . | 6 | 2.6 |
| Tuna. . . . . | 7 | 7,750 | 2 | 47,173 | Oyster. . . . . | 7 | 2.1 |
| Lobster, northern . . | 8 | 7,400 | 11 | 10,870 | Scallop . . . . . | 8 | 2.0 |
| Scallop . . . . . | 9 | 6,000 | 9 | 11,886 | Salmon. . . . . | 9 | 1.8 |
| North Atlantic trawl. | 10 | 5,000 | 4 | 34,944 | Herring, Maine. . . . | 10 | 1.5 |
| Mullet. . . . . | 11 | 4,631 | 14 | 2,982 | Lobster, northern . . | 11 | 1.5 |
| Menhaden. . . . . | 12 | 4,200 | 7 | 18,578 | Crab. . . . . | 12 | 1.3 |
| Sardine, Pacific 2/ . | 13 | 3,900 | 8 | 12,140 | Fresh-water 1/. . . . | 13 | 0.8 |
| Halibut . . . . . | 14 | 2,200 | 13 | 5,733 | Clam. . . . . | 14 | 0.7 |
| Herring, Maine. . . . | 15 | 1,050 | 15 | 1,621 | Mullet. . . . . | 15 | 0.6 |

1/ Data are for 1950.
2/ The 1950 catch of Pacific sardines has been used in this table because the take during that year is more representative of an average year than the 1953 production.

Note:--Some fishermen fished for two or more of the species shown in the tables above. Many of the fishermen operating in the fresh-water, clam, and various other fisheries were casual fishermen who derived less than one-half of their annual income from fishing. In some fisheries, fishermen were employed during the entire year in making the catch shown above, while in others the catch was made in a few weeks or months.

## RANK OF STATES AND ALASKA IN NUMBER OF FISHERMEN, 1953

| Rank | State | Number of Fishermen |
|---|---|---|
| 1 | Alaska | 13,906 |
| 2 | Washington | 12,717 |
| 3 | California | 12,483 |
| 4 | Massachusetts | 11,195 |
| 5 | Louisiana | 1/10,931 |
| 6 | Florida | 10,654 |
| 7 | Maine | 9,331 |
| 8 | Virginia | 8,911 |
| 9 | Maryland | 8,269 |
| 10 | North Carolina | 7,513 |
| 11 | New York | 2/ 5,887 |
| 12 | New Jersey | 5,878 |
| 13 | Texas | 4,595 |
| 14 | Mississippi | 4,240 |
| 15 | Oregon | 3,733 |
| 16 | Arkansas | 3,634 |
| 17 | Rhode Island | 2,767 |
| 18 | Connecticut | 2,620 |
| 19 | Wisconsin | 2,513 |
| 20 | Iowa | 2,316 |
| 21 | South Carolina | 2,235 |
| 22 | Michigan | 2,083 |
| 23 | Alabama | 1,996 |
| 24 | Tennessee | 1,813 |
| 25 | Missouri | 1,207 |
| 26 | Minnesota | 1,172 |
| 27 | Kentucky | 1,145 |
| 28 | Delaware | 1,050 |
| 29 | Georgia | 1,046 |
| 30 | Illinois | 898 |
| 31 | Ohio | 749 |
| 32 | New Hampshire | 479 |
| 33 | Oklahoma | 202 |
| 34 | Pennsylvania | 166 |
| 35 | South Dakota | 93 |
| 36 | Indiana | 34 |
| | Total, Exclusive of Duplication | 152,907 |

1/ Includes 3,637 fishermen operating in the Mississippi River.
2/ Includes 226 fishermen operating in Lake Erie.

Note:--Employment data in the Great Lakes and Mississippi River States are for 1950. The number of fishermen shown in the above table includes both regular and casual fishermen. Casual fishermen are those who receive less than one-half of their annual income from fishing.

RANK OF STATES AND ALASKA IN NUMBER OF FISHING CRAFT OPERATED, 1953

| Rank | State | Vessels | Boats | Total Number of Fishing Craft |
|---|---|---|---|---|
| 1 | California | 2,960 | 7,279 | 10,239 |
| 2 | Louisiana | 777 | 6,836 | 7,613 |
| 3 | Alaska | 1,897 | 5,157 | 7,054 |
| 4 | Maine | 210 | 6,329 | 6,539 |
| 5 | Maryland | 180 | 5,461 | 5,641 |
| 6 | Virginia | 393 | 5,126 | 5,519 |
| 7 | Florida | 894 | 4,408 | 5,302 |
| 8 | Washington | 1,420 | 3,290 | 4,710 |
| 9 | Massachusetts | 638 | 3,467 | 4,105 |
| 10 | Arkansas | - | 3,918 | 3,918 |
| 11 | North Carolina | 474 | 2,989 | 3,463 |
| 12 | New York | 266 | 2,445 | 2,711 |
| 13 | New Jersey | 422 | 2,218 | 2,640 |
| 14 | Mississippi | 404 | 2,068 | 2,472 |
| 15 | Rhode Island | 138 | 2,105 | 2,243 |
| 16 | Texas | 851 | 1,255 | 2,106 |
| 17 | Tennessee | - | 2,044 | 2,044 |
| 18 | Oregon | 428 | 1,312 | 1,740 |
| 19 | Iowa | - | 1,739 | 1,739 |
| 20 | Wisconsin | 194 | 1,458 | 1,652 |
| 21 | Connecticut | 86 | 1,470 | 1,556 |
| 22 | Alabama | 134 | 1,346 | 1,480 |
| 23 | South Carolina | 265 | 1,022 | 1,287 |
| 24 | Michigan | 287 | 846 | 1,133 |
| 25 | Kentucky | - | 1,092 | 1,092 |
| 26 | Missouri | - | 975 | 975 |
| 27 | Illinois | 20 | 931 | 951 |
| 28 | Minnesota | 3 | 836 | 839 |
| 29 | Georgia | 204 | 499 | 703 |
| 30 | Ohio | 103 | 312 | 415 |
| 31 | Delaware | 54 | 295 | 349 |
| 32 | New Hampshire | - | 219 | 219 |
| 33 | Oklahoma | - | 170 | 170 |
| 34 | Pennsylvania | 37 | 8 | 45 |
| 35 | South Dakota | - | 36 | 36 |
| 36 | Indiana | 4 | 17 | 21 |
| | Total, Exclusive of Duplication | 10,621 | 76,060 | 86,681 |

Note:--Operating unit data in the Mississippi River States and the Great Lakes are for 1950. Vessels are craft of 5 net tons and over, while boats are craft of less than 5 net tons.

RANK OF REGIONS IN NUMBER OF FISHERMEN, 1953

| Region | Fishermen | | Catch | | | |
|---|---|---|---|---|---|---|
| | | | Volume | | Value | |
| | Rank | Number | Rank | Thousand Pounds | Rank | Thousand Dollars |
| Pacific | 1 | 27,283 | 4 | 734,018 | 2 | 84,187 |
| New England | 2 | 25,434 | 2 | 864,005 | 3 | 60,112 |
| Lakes and Mississippi River | 3 | 24,038 | 8 | 180,624 | 8 | 19,708 |
| Gulf | 4 | 21,359 | 3 | 759,422 | 1 | 85,158 |
| Chesapeake | 5 | 17,113 | 5 | 342,537 | 6 | 26,364 |
| South Atlantic | 6 | 14,319 | 6 | 326,545 | 7 | 20,157 |
| Alaska | 7 | 13,906 | 7 | 296,966 | 5 | 26,467 |
| Middle Atlantic | 8 | 12,351 | 1 | 963,843 | 4 | 30,122 |
| Total, Exclusive of Duplication | - | 152,907 | - | 4,467,960 | - | 352,275 |

Note:--Catch and employment data for the Mississippi River and employment data for the Great Lakes are for 1950.

VALUE OF CERTAIN FISHERIES AT VARIOUS LEVELS, 1953

| Fishery | Value to Fisherman | | Value to Primary Wholesaler and Processor 1/ | | Value to Retailer, Restaurants, Etc. 1/ | |
|---|---|---|---|---|---|---|
| | Rank | Thousand Dollars | Rank | Thousand Dollars | Rank | Thousand Dollars |
| Shrimp | 1 | 76,641 | 3 | 99,907 | 2 | 195,787 |
| Tuna and tunalike fishes | 2 | 47,173 | 1 | 133,666 | 1 | 207,925 |
| Salmon | 3 | 37,806 | 2 | 105,474 | 3 | 171,228 |
| North Atlantic trawl | 4 | 34,944 | 5 | 51,805 | 4 | 134,771 |
| Oyster | 5 | 29,054 | 4 | 52,598 | 5 | 85,462 |
| Fresh-water | 6 | 19,708 | 8 | 29,808 | 6 | 69,349 |
| Menhaden | 7 | 18,578 | 6 | 34,266 | 9 | 47,287 |
| Scallop | 8 | 11,886 | 12 | 14,263 | 11 | 24,842 |
| Clam | 9 | 11,467 | 9 | 22,098 | 10 | 35,375 |
| Lobster, northern | 10 | 10,870 | 11 | 16,599 | 8 | 52,790 |
| Crab | 11 | 10,200 | 7 | 30,143 | 7 | 55,215 |
| Halibut | 12 | 5,733 | 14 | 7,689 | 13 | 20,337 |
| Sardine, Pacific | 13 | 3,701 | 13 | 11,283 | 14 | 14,556 |
| Mullet | 14 | 2,982 | 16 | 4,026 | 16 | 6,490 |
| Mackerel, Pacific and jack | 15 | 2,323 | 15 | 6,509 | 15 | 8,982 |
| Herring, Atlantic | 16 | 1,821 | 10 | 17,788 | 12 | 24,585 |
| Total | - | 324,887 | - | 637,922 | - | 1,154,981 |
| Other | - | 27,388 | - | 45,628 | - | 60,685 |
| Grand Total | - | 352,275 | - | 683,550 | - | 1,215,666 |

1/ The values shown were calculated from available data.

CATCH OF MAJOR FISHERIES OF THE UNITED STATES AND ALASKA, 1921-1955

(IN THOUSANDS OF POUNDS)

| YEAR | SALMON | MENHADEN | SARDINE, PACIFIC | TUNA, PACIFIC |
|---|---|---|---|---|
| | QUANTITY | QUANTITY | QUANTITY | QUANTITY |
| 1921 | 1/317,510 | 691,132 | 59,332 | 21,240 |
| 1922 | 1/462,574 | 812,342 | 92,114 | 35,950 |
| 1923 | 1/512,258 | 743,895 | 159,197 | 38,695 |
| 1924 | 1/514,710 | 344,284 | 242,686 | 28,327 |
| 1925 | 1/496,155 | 532,118 | 315,295 | 53,911 |
| 1926 | 1/596,421 | 382,781 | 286,741 | 42,654 |
| 1927 | 432,358 | 392,763 | 342,275 | 69,218 |
| 1928 | 597,962 | 362,213 | 420,270 | 62,050 |
| 1929 | 584,494 | 442,443 | 651,802 | 72,193 |
| 1930 | 526,057 | 409,513 | 494,451 | 99,347 |
| 1931 | 601,024 | 236,432 | 300,204 | 56,658 |
| 1932 | 528,624 | 375,479 | 312,172 | 60,251 |
| 1933 | 574,040 | 357,726 | 509,805 | 68,325 |
| 1934 | 711,744 | 517,403 | 1,135,959 | 94,222 |
| 1935 | 533,454 | 434,386 | 1,168,213 | 117,070 |
| 1936 | *790,884 | 516,104 | *1,502,299 | 125,254 |
| 1937 | 689,045 | 529,202 | 1,139,505 | 154,841 |
| 1938 | 653,942 | 517,530 | 1,110,401 | 136,426 |
| 1939 | 526,976 | 574,825 | 1,240,975 | 171,297 |
| 1940 | 500,562 | 634,589 | 913,944 | 204,882 |
| 1941 | 629,480 | 775,087 | 1,328,378 | 123,739 |
| 1942 | 508,597 | 482,644 | 974,680 | 116,587 |
| 1943 | 506,408 | 615,554 | 997,001 | 125,852 |
| 1944 | 443,007 | 685,980 | 1,147,295 | 166,320 |
| 1945 | 498,884 | 759,074 | 849,971 | 180,873 |
| 1946 | 478,256 | 916,013 | 530,994 | 214,509 |
| 1947 | 498,045 | 948,156 | 272,236 | 253,941 |
| 1948 | 403,749 | 1,007,889 | 373,159 | 316,003 |
| 1949 | 484,204 | 1,072,630 | 633,540 | 330,239 |
| 1950 | 328,644 | 1,000,498 | 714,522 | *389,852 |
| 1951 | 374,225 | 1,103,915 | 328,894 | 316,433 |
| 1952 | 352,274 | 1,383,592 | 14,330 | 324,914 |
| 1953 | 312,934 | 1,696,076 | 9,469 | 306,092 |
| 1954 5/ | 324,716 | 1,750,000 | 136,504 | 324,000 |
| 1955 5/ | 286,000 | *1,800,000 | 143,000 | 264,000 |

| YEAR | MACKEREL, PACIFIC AND JACK | SHRIMP | OCEAN PERCH, ATLANTIC | HADDOCK 4/ | HERRING, ALASKA |
|---|---|---|---|---|---|
| | QUANTITY | QUANTITY | QUANTITY | QUANTITY | QUANTITY |
| 1921 | 2/2,975 | (3) | - | 90,630 | 37,772 |
| 1922 | 2/2,496 | (3) | - | 99,294 | 82,327 |
| 1923 | 2/3,592 | (3) | - | 104,652 | 85,723 |
| 1924 | 2/3,241 | (3) | - | 114,000 | 100,567 |
| 1925 | 2/3,522 | (3) | - | 128,934 | 181,991 |
| 1926 | 2/3,623 | (3) | - | 135,318 | 178,331 |
| 1927 | 5,208 | (3) | - | 191,976 | 127,537 |
| 1928 | 35,802 | (3) | - | 247,836 | 152,756 |
| 1929 | 58,684 | (3) | - | *293,808 | 153,106 |
| 1930 | 16,900 | 92,327 | - | 270,759 | 145,672 |
| 1931 | 14,815 | 99,432 | - | 195,419 | 103,567 |
| 1932 | 13,010 | 91,704 | - | 166,514 | 127,578 |
| 1933 | 70,626 | (3) | 264 | 166,406 | 140,580 |
| 1934 | 115,429 | 122,028 | 1,841 | 164,730 | 165,637 |
| 1935 | 156,411 | (3) | 17,157 | 202,008 | 189,287 |
| 1936 | 105,141 | 121,562 | 66,592 | 185,478 | 172,829 |
| 1937 | 67,478 | 143,448 | 58,357 | 177,498 | *206,446 |
| 1938 | 83,982 | 143,101 | 65,005 | 175,788 | 179,735 |
| 1939 | 84,669 | 150,250 | 78,206 | 178,524 | 185,462 |
| 1940 | 121,937 | 152,663 | 85,270 | 155,952 | 94,158 |
| 1941 | 80,236 | (3) | 145,387 | - | 163,467 |
| 1942 | 57,902 | (3) | 128,107 | 145,687 | 43,833 |
| 1943 | 87,961 | (3) | 114,744 | 125,693 | 90,549 |
| 1944 | 96,434 | (3) | 120,216 | 140,566 | 113,278 |
| 1945 | 62,750 | 191,345 | 131,834 | 154,988 | 139,769 |
| 1946 | 68,968 | (3) | 178,152 | 155,035 | 198,231 |
| 1947 | *175,526 | (3) | 146,587 | 166,371 | 187,889 |
| 1948 | 112,285 | (3) | 238,096 | 156,375 | 174,449 |
| 1949 | 101,021 | (3) | 236,987 | 134,971 | 33,061 |
| 1950 | 165,906 | 191,474 | 207,793 | 158,559 | 165,367 |
| 1951 | 123,356 | 224,316 | *258,320 | 154,103 | 81,625 |
| 1952 | 167,127 | 227,221 | 189,042 | 161,497 | 45,802 |
| 1953 | 63,253 | *260,357 | 153,898 | 139,603 | 34,812 |
| 1954 5/ | 42,727 | 245,000 | 181,000 | 155,000 | 35,322 |
| 1955 5/ | 55,122 | 250,000 | 157,000 | 136,000 | 63,000 |

1/ PARTLY ESTIMATED. 2/ PACIFIC MACKEREL ONLY. 3/ NOT AVAILABLE. 4/ 1921 THROUGH 1940 FROM SPECIAL HADDOCK TABULATION PREPARED BY WILLIAM C. HERRINGTON. 5/ PRELIMINARY.

SOURCE:--COMPILED FROM RECORDS OF THE FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR.

* RECORD

# FEDERAL, STATE, AND INTERNATIONAL COMMISSION EXPENDITURES FOR RESEARCH AND SERVICES IN THE COMMERCIAL FISHERIES OF THE UNITED STATES, ALASKA, AND HAWAII

The table and graphs following were prepared to show the total effort directed to research and services for the major domestic commercial fisheries by the Federal, State, and Territorial Governments of the United States, and by the several international fisheries commissions to which the United States is a party. Wherever possible, the expenditures were broken down for the major species or fisheries listed. In some few instances, however, such a breakdown was not possible and the lump sum involved was placed in the "all other" category.

These data were prepared for use primarily by the American Fisheries Advisory Committee appointed by the Secretary of the Interior, under the terms of the Saltonstall-Kennedy Act, to advise him in the formulation of policy, rules, and regulations pertaining to requests for assistance under the Act. It is expected that this information will help to indicate where deficiencies exist and where additional effort might be directed.

The Saltonstall-Kennedy Act makes available a maximum of $3,000,000 annually. Of this amount, $189,000 was allotted in Fiscal Year 1956 for direct administrative costs, which accounts for the total funds shown for the Act as only $2,811,000. Similarly, direct administrative costs are not included in any of the other activities or sources of funds shown except perhaps in the data supplied by the States and Territories, where the amounts involved may have been allocated to a particular species or fishery and not shown separately. The fiscal data for the States and Territories are for the latest calendar or fiscal year for which information is available, generally 1954, 1955, or 1956. All other data are for the Fiscal Year ending June 30, 1956. The catch and value data are for Calendar Year 1953.

Research and services are deemed to include all investigations and studies of a technical nature, fishery management projects, and statistical, marketing, and similar services. Law enforcement activities are <u>not</u> included.

The Fish and Wildlife Service is indebted to the 32 State and Territorial departments for furnishing the necessary data for their respective jurisdictions in which commercial fisheries are prosecuted.

FEDERAL, STATE, AND INTERNATIONAL COMMISSION EXPENDITURES FOR RESEARCH AND SERVICES IN THE COMM

(In Thousands of Dollars)

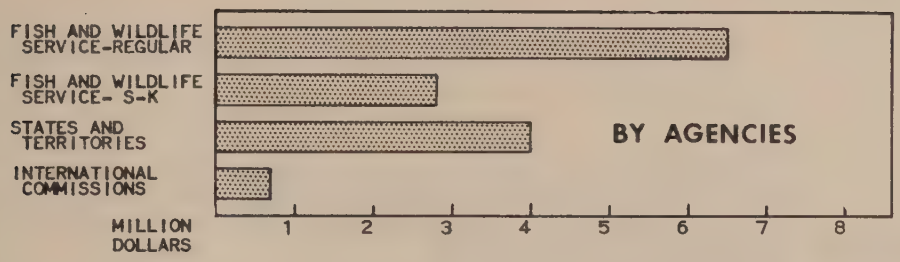
| Line No. | Activity and Source of Funds | Bottom Fisheries | | | | | | Pelagic Fisheries | | | | | | | Other Marin | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pacific | | | Atlantic | | | Pacific | | | Atlantic and Gulf | | | | Pacific | |
| | | Rock-fishes | Flound-ers | Hali-but | Ocean Perch | Ground-fish 1/ | Flound-ers | Mack-erels | Sar-dines | Tunas | Men-haden | Sar-dines | Mullet | Tunas | Salmon | Stripe bass |
| 1 | BIOLOGICAL RESEARCH: | | | | | | | | | | | | | | | |
| 2 | Regular FWS Appropriation. . | - | - | - | 30 | 150 | - | - | 132 | 637 | 10 | - | - | - | 981 | - |
| 3 | Saltonstall-Kennedy Act. . . | - | - | - | 30 | 154 | 50 | - | 119 | 263 | 80 | 99 | - | - | 169 | - |
| 4 | Total . . . . . | - | - | - | 60 | 304 | 50 | - | 251 | 900 | 90 | 99 | - | - | 1,150 | - |
| 5 | HATCHERIES AND RIVER BASIN | | | | | | | | | | | | | | | |
| 6 | STUDIES: 3/ | | | | | | | | | | | | | | | |
| 7 | Regular FWS Appropriation. . | - | - | - | - | - | 2 | - | - | - | - | - | - | - | 2,113 | - |
| 8 | Saltonstall-Kennedy Act. . . | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | Total . . . . . | - | - | - | - | - | 2 | - | - | - | - | - | - | - | 2,113 | - |
| 10 | OTHER RESEARCH AND SERVICES: | | | | | | | | | | | | | | | |
| 11 | EXPLORATORY: | | | | | | | | | | | | | | | |
| 12 | Regular FWS Appropriation. | 10 | 10 | - | 2 | - | - | - | - | - | 1 | 2 | 1 | 77 | 82 | - |
| 13 | Saltonstall-Kennedy Act. . | - | - | - | 32 | 65 | 5 | - | - | - | - | 77 | - | - | - | - |
| 14 | Total . . . . . | 10 | 10 | - | 34 | 65 | 5 | - | - | - | 1 | 79 | 1 | 77 | 82 | - |
| 15 | TECHNOLOGY: | | | | | | | | | | | | | | | |
| 16 | Regular FWS Appropriation. | - | 1 | 2 | 5 | 55 | 4 | 2 | 19 | 21 | 25 | 12 | - | 21 | 18 | - |
| 17 | Saltonstall-Kennedy Act. . | 3 | 2 | 8 | 7 | 45 | 2 | 3 | 18 | 28 | 100 | 17 | 2 | 16 | 51 | - |
| 18 | Total . . . . . | 3 | 3 | 10 | 12 | 100 | 6 | 5 | 37 | 49 | 125 | 29 | 2 | 37 | 69 | - |
| 19 | STATISTICS: | | | | | | | | | | | | | | | |
| 20 | Regular FWS Appropriation. | 1 | 2 | 2 | 17 | 32 | 9 | 2 | 1 | 3 | 7 | 3 | 2 | 1 | 7 | - |
| 21 | Saltonstall-Kennedy Act. . | 2 | 2 | - | 2 | 4 | 5 | 1 | 2 | 3 | 3 | - | 3 | - | 6 | - |
| 22 | Total . . . . . | 3 | 4 | 2 | 19 | 36 | 14 | 3 | 3 | 6 | 10 | 3 | 5 | 1 | 13 | - |
| 23 | ECONOMICS: | | | | | | | | | | | | | | | |
| 24 | Regular FWS Appropriation. | 2 | - | 2 | 1 | 5 | 1 | 1 | 2 | 7 | 2 | 1 | - | - | 2 | - |
| 25 | Saltonstall-Kennedy Act. . | 10 | 10 | 10 | 3 | 16 | 1 | 4 | 11 | 12 | 5 | 7 | 2 | - | 12 | - |
| 26 | Total . . . . . | 12 | 10 | 12 | 4 | 21 | 2 | 5 | 13 | 19 | 7 | 8 | 2 | - | 14 | - |
| 27 | MARKET NEWS: | | | | | | | | | | | | | | | |
| 28 | Regular FWS Appropriation. | 8 | 2 | 17 | 4 | 35 | 10 | 8 | 9 | 27 | 5 | 5 | 7 | 1 | 17 | - |
| 29 | Saltonstall-Kennedy Act. . | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 30 | Total . . . . . | 8 | 2 | 17 | 4 | 35 | 10 | 8 | 9 | 27 | 5 | 5 | 7 | 1 | 17 | - |
| 31 | MARKET DEVELOPMENT AND | | | | | | | | | | | | | | | |
| 32 | EDUCATION: | | | | | | | | | | | | | | | |
| 33 | Regular FWS Appropiration. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | Saltonstall-Kennedy Act. . | 6 | 6 | 16 | 17 | 53 | 8 | 4 | 6 | 40 | 6 | 4 | 22 | 2 | 10 | - |
| 35 | Total . . . . . | 6 | 6 | 16 | 17 | 53 | 8 | 4 | 6 | 40 | 6 | 4 | 22 | 2 | 10 | - |
| 36 | Total (10-35) OTHER RESEARCH | | | | | | | | | | | | | | | |
| 37 | AND SERVICES: | | | | | | | | | | | | | | | |
| 38 | Regular FWS Appropriation. | 21 | 15 | 23 | 29 | 127 | 24 | 13 | 31 | 58 | 40 | 23 | 10 | 100 | 126 | - |
| 39 | Saltonstall-Kennedy Act. . | 21 | 20 | 34 | 61 | 183 | 21 | 12 | 37 | 83 | 114 | 105 | 29 | 18 | 79 | - |
| 40 | Total . . . . . | 42 | 35 | 57 | 90 | 310 | 45 | 25 | 68 | 141 | 154 | 128 | 39 | 118 | 205 | - |
| 41 | Total Regular FWS Appropria- | | | | | | | | | | | | | | | |
| 42 | tion . . . . . | 21 | 15 | 23 | 59 | 277 | 26 | 13 | 163 | 695 | 50 | 23 | 10 | 100 | 3,220 | - |
| 43 | Total Saltonstall-Kennedy Act. | 21 | 20 | 34 | 91 | 337 | 71 | 12 | 156 | 346 | 194 | 204 | 29 | 18 | 248 | - |
| 44 | Total Fish & Wildlife Service | 42 | 35 | 57 | 150 | 614 | 97 | 25 | 319 | 1,041 | 244 | 227 | 39 | 118 | 3,468 | - |
| 45 | States, Alaska, and Hawaii . . | 11 | 92 | - | - | - | 2 | 28 | 638 | 147 | 1 | - | 16 | - | 983 | 21 |
| 46 | International Commissions. . . | - | - | 4/188 | - | - | - | - | - | 5/198 | - | - | - | - | 6/282 | - |
| 47 | GRAND TOTAL . . . . . | 53 | 127 | 245 | 150 | 614 | 99 | 53 | 957 | 1,386 | 245 | 227 | 55 | 118 | 4,733 | 21 |
| 48 | 1953 Catch - Millions of | | | | | | | | | | | | | | | |
| 49 | Pounds . . . . . | 26 | 36 | 47 | 154 | 302 | 63 | 63 | 9 | 304 | 1,696 | 111 | 34 | 2 | 313 | (8) |
| 50 | 1953 Value - Millions of | | | | | | | | | | | | | | | |
| 51 | Dollars . . . . . | 1.1 | 2.2 | 5.6 | 6.0 | 16.0 | 8.0 | 2.3 | 0.5 | 47.0 | 18.6 | 1.8 | 3.0 | 0.1 | 37.8 | (9) |

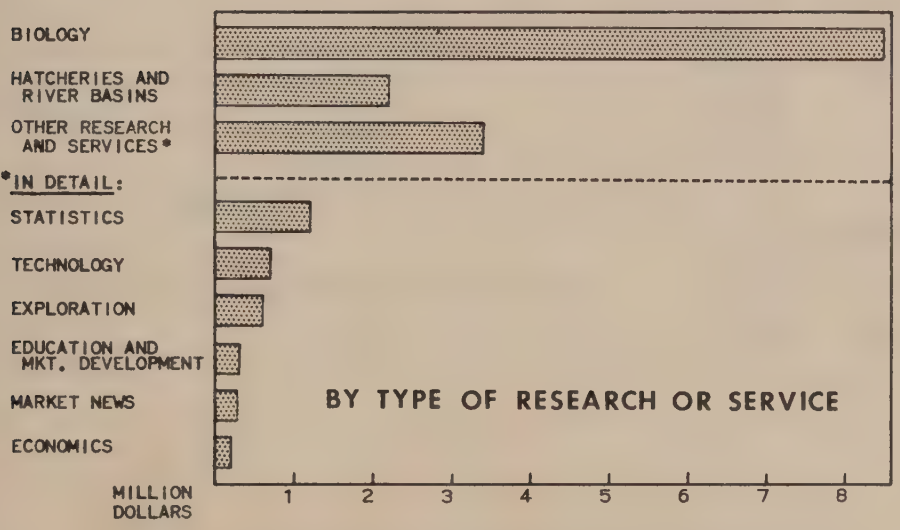
1/ In this table, groundfish includes cod, haddock, hake, pollock, cusk, and whiting.
2/ Includes species and fisheries not separately shown; includes some amounts for listed species where data did not permit separation.
3/ Includes contributed funds from Bureau of Reclamation and Corps of Engineers.
4/ International Pacific Halibut Commission (funds from the United States and Canada).
5/ Inter-American Tropical Tuna Commission; this amount represents all available funds (almost entirely from the United States).
6/ International Pacific Salmon Fisheries Commission (funds from the United States and Canada).
7/ In addition to this total, there are included in Biological Research, Regular FWS Appropriation (line 2, above), the following: International North Pacific Fisheries Commission, $730,600 (U. S. funds); International Commission for the Northwest Atlantic, $218,000 (U. S. funds).
8/ Less than 500,000 pounds.
9/ Less than $500,000.

ERCIAL FISHERIES OF THE UNITED STATES, ALASKA AND HAWAII, 1956

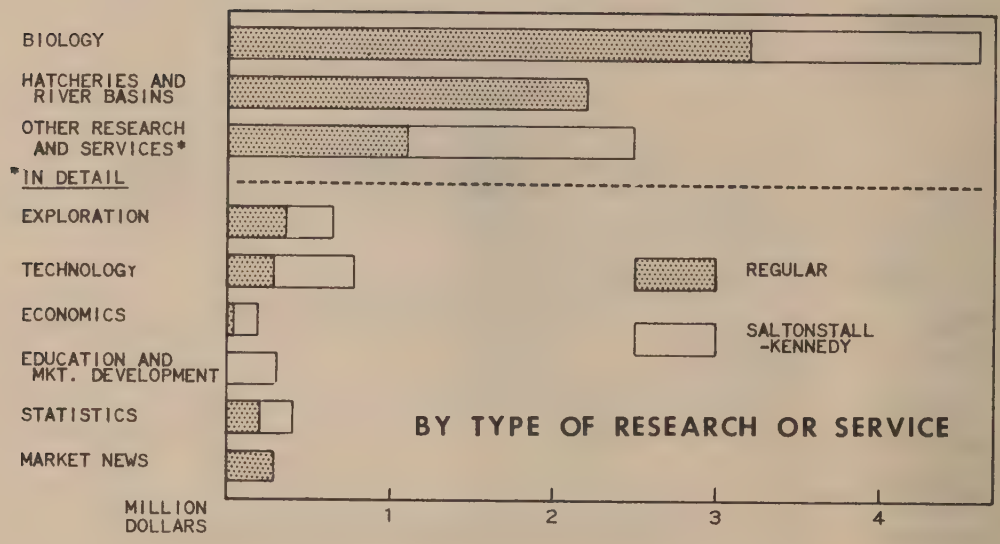
| e Fisheries | | Shellfisheries | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlantic | | Pacific | | Atlantic and Gulf | | | | | | | | | |
| d Shad | Striped Bass | Clams | Pacific Oysters | Scallops | Clams | Crabs | Oysters | Shrimp | Northern lobster | Fresh-water fish-eries | All Other 2/ | Total | Line No. |
| | | | | | | | | | | | | | 1 |
| 84 | - | - | - | - | 85 | - | 118 | - | - | 576 | 383 | 3,186 | 2 |
| - | 32 | - | - | 50 | - | - | 75 | 130 | - | - | 134 | 1,385 | 3 |
| 84 | 32 | - | - | 50 | 85 | - | 193 | 130 | - | 576 | 517 | 4,571 | 4 |
| | | | | | | | | | | | | | 5 |
| | | | | | | | | | | | | | 6 |
| - | 1 | - | - | - | 1 | - | 1 | - | - | 33 | 6 | 2,157 | 7 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | 8 |
| - | 1 | - | - | - | 1 | - | 1 | - | - | 33 | 6 | 2,157 | 9 |
| | | | | | | | | | | | | | 10 |
| | | | | | | | | | | | | | 11 |
| - | - | 1 | - | 3 | 1 | 2 | - | 113 | 1 | 1 | 46 | 353 | 12 |
| - | - | - | - | - | - | - | - | 64 | 22 | - | 34 | 299 | 13 |
| - | - | 1 | - | 3 | 1 | 2 | - | 177 | 23 | 1 | 80 | 652 | 14 |
| | | | | | | | | | | | | | 15 |
| - | - | 5 | 7 | - | 1 | 22 | 10 | 12 | 2 | 16 | 22 | 282 | 16 |
| - | - | 3 | 3 | 2 | 2 | 3 | 38 | 42 | 2 | 17 | 50 | 464 | 17 |
| - | - | 8 | 10 | 2 | 3 | 25 | 48 | 54 | 4 | 33 | 72 | 746 | 18 |
| | | | | | | | | | | | | | 19 |
| 2 | 1 | 1 | 1 | 5 | 5 | 8 | 9 | 16 | 3 | 3 | 37 | 180 | 20 |
| 1 | 1 | - | - | 1 | 3 | 11 | 11 | 87 | 1 | 25 | 26 | 200 | 21 |
| 3 | 2 | 1 | 1 | 6 | 8 | 19 | 20 | 103 | 4 | 28 | 63 | 380 | 22 |
| | | | | | | | | | | | | | 23 |
| - | - | - | - | 1 | - | 2 | 1 | 3 | 1 | 5 | 4 | 43 | 24 |
| - | - | - | 1 | 2 | 2 | 8 | 1 | 12 | 1 | 10 | 8 | 148 | 25 |
| - | - | - | 1 | 3 | 2 | 10 | 2 | 15 | 2 | 15 | 12 | 191 | 26 |
| | | | | | | | | | | | | | 27 |
| 2 | 6 | 2 | 1 | 7 | 6 | 10 | 8 | 25 | 9 | 21 | 28 | 280 | 28 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | 29 |
| 2 | 6 | 2 | 1 | 7 | 6 | 10 | 8 | 25 | 9 | 21 | 28 | 280 | 30 |
| | | | | | | | | | | | | | 31 |
| | | | | | | | | | | | | | 32 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | 33 |
| - | 4 | 4 | 4 | 13 | 5 | 13 | 6 | 14 | 13 | 18 | 21 | 315 | 34 |
| - | 4 | 4 | 4 | 13 | 5 | 13 | 6 | 14 | 13 | 18 | 21 | 315 | 35 |
| | | | | | | | | | | | | | 36 |
| | | | | | | | | | | | | | 37 |
| 4 | 7 | 9 | 9 | 16 | 13 | 44 | 28 | 169 | 16 | 46 | 137 | 1,138 | 38 |
| 1 | 5 | 7 | 8 | 18 | 12 | 35 | 56 | 219 | 39 | 70 | 139 | 1,426 | 39 |
| 5 | 12 | 16 | 17 | 34 | 25 | 79 | 84 | 388 | 55 | 116 | 276 | 2,564 | 40 |
| | | | | | | | | | | | | | 41 |
| 88 | 8 | 9 | 9 | 16 | 99 | 44 | 147 | 169 | 16 | 655 | 526 | 6,481 | 42 |
| 1 | 37 | 7 | 8 | 68 | 12 | 35 | 131 | 349 | 39 | 70 | 273 | 2,811 | 43 |
| 89 | 45 | 16 | 17 | 84 | 111 | 79 | 278 | 518 | 55 | 725 | 799 | 9,292 | 44 |
| - | 63 | 44 | 67 | 16 | 73 | 57 | 706 | 95 | 24 | 192 | 739 | 4,015 | 45 |
| - | - | - | - | - | - | - | - | - | - | - | - | 7/668 | 46 |
| 89 | 108 | 60 | 84 | 100 | 184 | 136 | 984 | 613 | 79 | 917 | 1,538 | 13,975 | 47 |
| | | | | | | | | | | | | | 48 |
| 9 | 5 | 2 | 10 | 26 | 35 | 113 | 69 | 258 | 28 | 181 | 572 | 4,468 | 49 |
| | | | | | | | | | | | | | 50 |
| 1.5 | 1.1 | .05 | 1.8 | 11.9 | 11.0 | 5.9 | 27.2 | 76.3 | 10.9 | 19.7 | 34.3 | 352.3 | 51 |

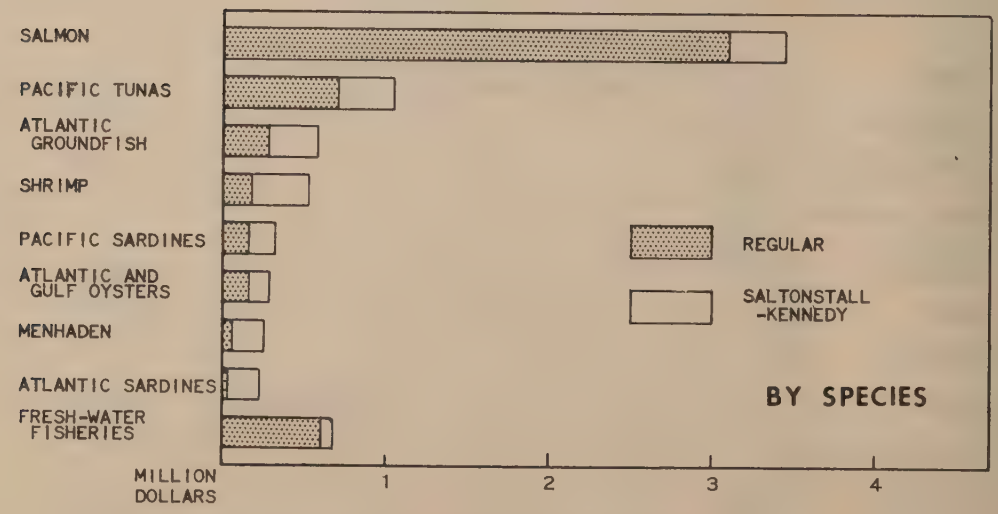
# TOTAL EXPENDITURES FOR RESEARCH AND SERVICES



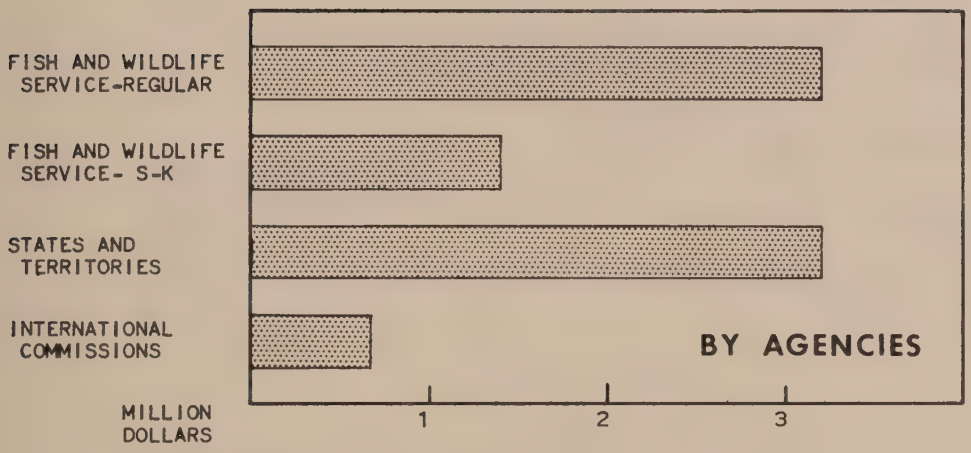



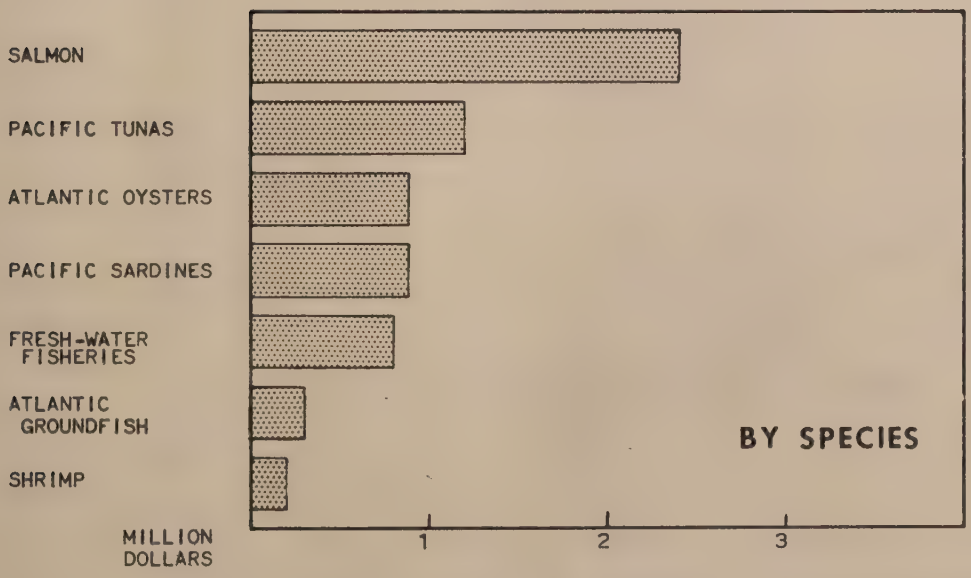
# TOTAL FISH AND WILDLIFE SERVICE EXPENDITURES FOR RESEARCH AND SERVICES



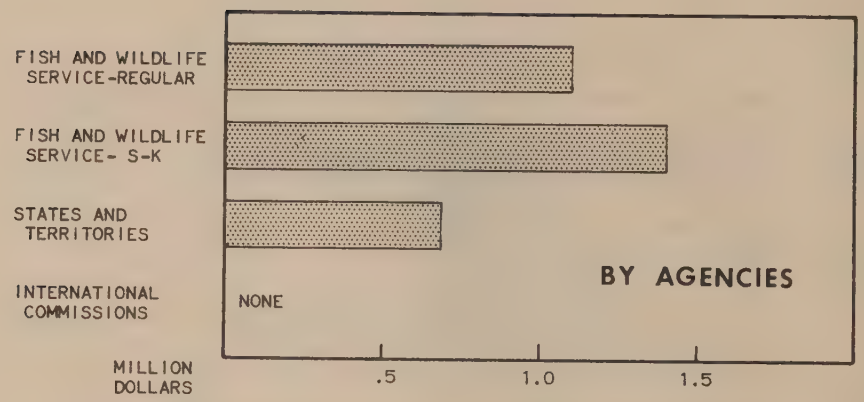



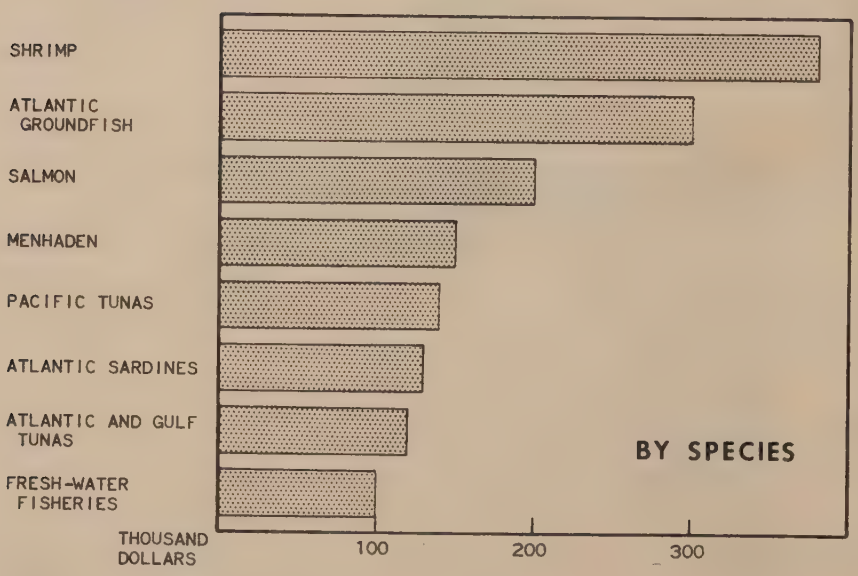
# TOTAL EXPENDITURES FOR BIOLOGY



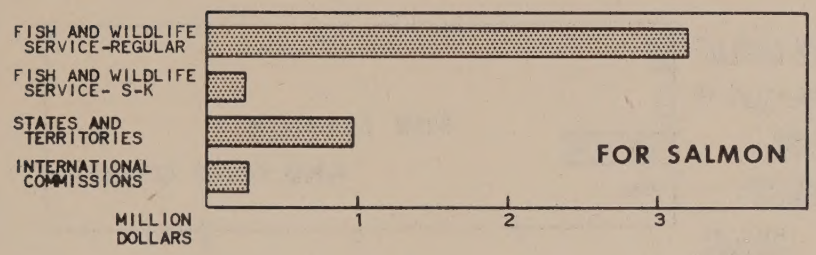
# TOTAL EXPENDITURES FOR OTHER RESEARCH AND SERVICES*

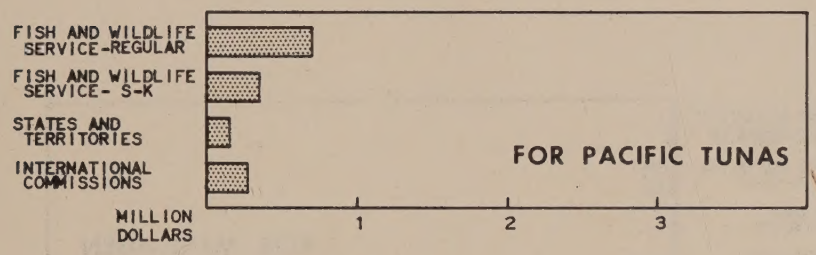


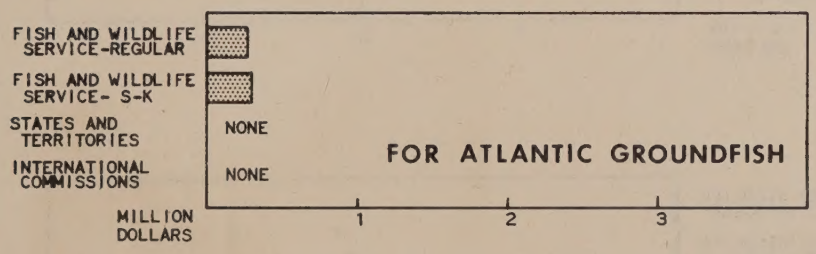



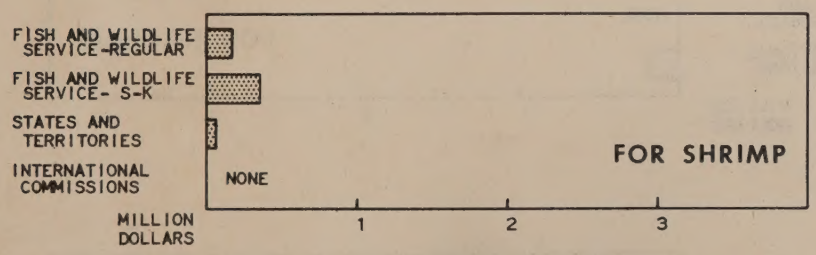

*Includes Statistics, Technology, Exploration, Education and Market Development, Market News, and Economics.

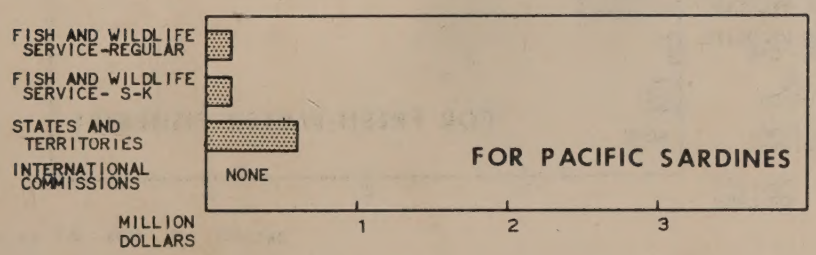
# TOTAL EXPENDITURES FOR MAJOR SPECIES



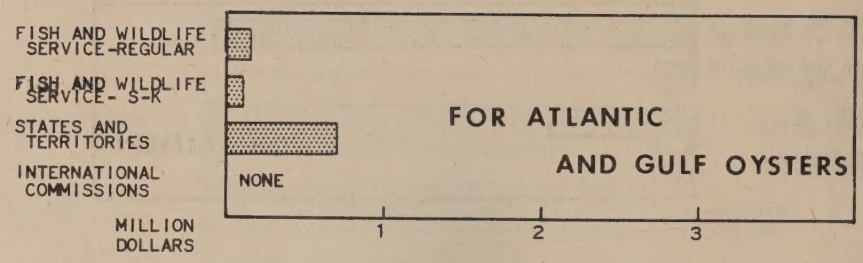



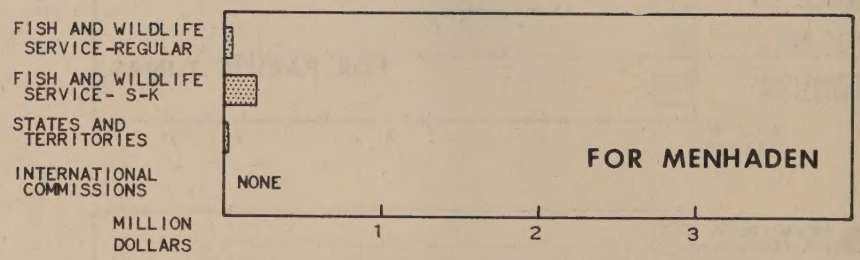



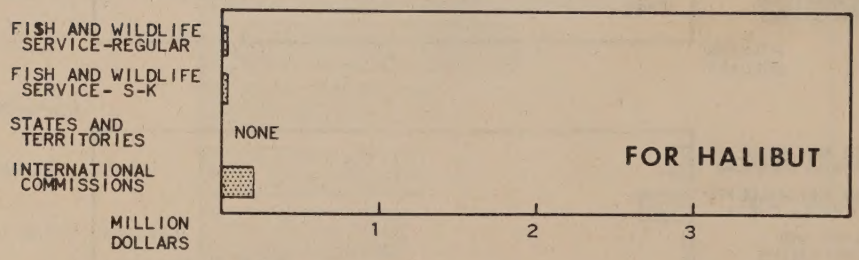



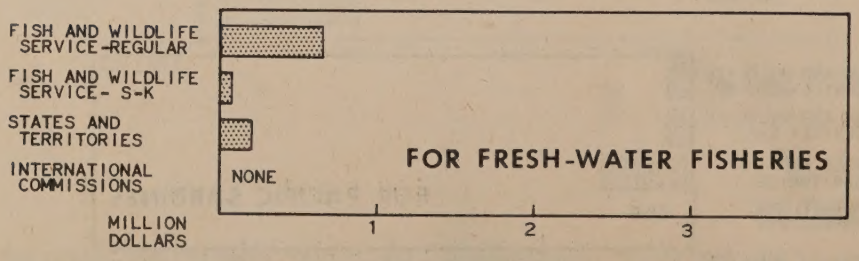
# TOTAL EXPENDITURES FOR MAJOR SPECIES

## Continued

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